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The analysis of resource productivity factors: The models on panel data

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Abstract

© 2018, Institute of Advanced Scientific Research, Inc. All rights reserved. The authors of the paper use econometric analysis to create new organizational knowledge in order to improve the efficiency of innovations and competitiveness of the corporation. The authors emphasize that increasing the resource productivity is a condition for the rise in the efficiency of industrial business processes. The purpose of the article is to compare the drivers of business process efficiency in several cost segments based on panel data models. The article analyzes information about costs using specialist statistical and econometric Gretl software. The use of panel data enabled to allocate cost segments and create prognostic profiles of each segment to simulate the consequences of the decisions made. The authors demonstrate the capabilities of the panel data to prove the necessity of modern analysis methods in the management of business processes. To this end, the paper suggests the methodical approach to the measurement of energy production on the basis of panel data models, taking into account the individual differences between the economic units. Measurement and determination of business process efficiency drivers based on panel data models is one of the possible areas to form organizational knowledge in future research. The results are obtained with the use of the Gretl software of empirical assessment of their feasibility in the management of business processes in oil and gas production.

Keywords

Econometric analysis, Heterogeneity, Innovation, Oil companies, Panel data models, Productivity, Resource productivity

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